

## CLAIMS

### WHAT IS CLAIMED IS:

1. A light source, comprising:
  - 5 an LED that emits excitation light;
  - a layer of phosphor material positioned to receive the excitation light, the phosphor material emitting visible light when illuminated with the excitation light; and
  - 10 a non-planar flexible multilayer reflector that transmits the excitation light and reflects visible light, the non-planar flexible multilayer reflector being positioned between the LED and the layer of phosphor material.
2. The light source according to claim 1, wherein the non-planar flexible multilayer reflector comprises polymeric material.
  - 15 3. The light source according to claim 1, wherein the non-planar flexible multilayer reflector comprises alternating layers of a first and second thermoplastic polymer and wherein at least some of the layers are birefringent.
  - 20 4. The light source according to claim 1, wherein the excitation light comprises UV light.
  5. The light source according to claim 1, wherein the non-planar flexible multilayer reflector is a concave polymeric multilayer reflector.
    - 25 6. The light source according to claim 1, wherein the non-planar flexible multilayer reflector is a hemispherical concave polymeric multilayer reflector.

7. The light source according to claim 1, wherein the layer of phosphor material is disposed on the non-planar flexible multilayer reflector.

8. The light source according to claim 1, wherein the non-planar flexible  
5 multilayer reflector comprises a polymeric material that resists degradation when exposed to U.V. light.

9. The light source according to claim 2, wherein the non-planar polymeric multilayer reflector is a polymeric material substantially free of inorganic materials.

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10. The light source according to claim 1, wherein the layer of phosphor material is a discontinuous layer of phosphor material.

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11. The light source according to claim 1, wherein the layer of phosphor material is a plurality of dots of phosphor material.

12. The light source according to claim 11, wherein each dot has an area of less than 10000 microns<sup>2</sup>.

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13. The light source according to claim 11, wherein the plurality of dots comprise phosphor material that emit red, green and blue light when illuminated with excitation light.

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14. The light source according to claim 11, wherein at least a first phosphor dot emits light at a first wavelength and a second phosphor dot emits light at a second wavelength different than the first wavelength.

15. A method of manufacturing a light source, comprising the steps of:  
providing a LED that emits excitation light;

positioning a layer of phosphor material such that the phosphor material emits visible light when illuminated with the excitation light; and  
positioning a non-planar flexible multilayer reflector that transmits the excitation light onto the phosphor material and reflects visible light.

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16. The method according to claim 15, wherein the positioning a non-planar flexible multilayer reflector further comprises shaping a flexible multilayer reflector to form a non-planar flexible multilayer reflector.
- 10 17. The method according to claim 15, further comprising thermoforming a polymeric multilayer reflector to form a non-planar flexible multilayer reflector.